



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/540,178

12/05/2005

Stefan Lanio

ZIMR/0019

1197

26290 7590 01/16/2009
PATTERSON & SHERIDAN, L.L.P.
3040 POST OAK BOULEVARD
SUITE 1500
HOUSTON, TX 77056

EXAMINER

JONES, JAMES

ART UNIT

PAPER NUMBER

2873

MAIL DATE

DELIVERY MODE

01/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,178	Applicant(s) LANIO, STEFAN	
	Examiner JAMES C. JONES	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 34-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 34 is/are rejected.
- 7) ☒ Claim(s) 35 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/3/2008 & 12/9/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 10/3/2008 and 12/9/2008 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement have been considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18 and 34 rejected under 35 U.S.C. 102(b) as being anticipated by Hamaguchi et al. (20010028038) hereafter '038.

'038 discloses the limitations therein including the following:

Regarding claims 1 and 17 '038 discloses a lens system for a plurality of charged particle beams, comprising: at least two lens modules (fig. 18A, 18B), each comprising a first pole piece, a second pole piece and at least one opening for a charged particle beam (18A, 18B, par. [0124]-[0126] [0158]-[0160]); and at least one excitation coil providing a magnetic flux to the at least two lens modules, wherein each lens module constitutes a component (fig. 18A, 18B, par. [0007]).

Regarding claim 2 '038 discloses the lens system according to claim 1, wherein one charged particle beam travels through each of the openings, thereby being focused in a lens field area (fig. 18A).

Regarding claim 3 '038 discloses the lens system according to claim 1, wherein the center of each opening provides an optical axis and wherein a lens field corresponding to each opening has at least two planes of symmetry with respect to the optical axis (fig. 12A, 12B, 15B, 18A, 18B).

Regarding claim 4 '038 discloses the lens system according to claim 1, wherein the openings of all lens modules sharing one excitation coil form a row of openings (fig. 1, fig. 18A).

Regarding claim 5 '038 discloses the lens system according to claim 1, wherein at least four openings are provided within one row, thereby increasing symmetry for each opening with respect to an optical axis of the opening (fig. 1, 12A, 18A).

Regarding claim 6 '038 discloses the lens system according to claim 1, wherein the at least one excitation coil has a non-circular shape (fig. 1, par. [0007]).

Regarding claim 7 '038 discloses the lens system according to claim 1, wherein the at least one excitation coil has substantially the shape of a rectangle with rounded edges (par. [0007]).

Regarding claim 8 '038 discloses the lens system according to claim 1, further comprising at least two lens rows, each comprising an excitation coil; and at least two lens modules arranged next to each other to form a two-dimensional arrangement of openings (fig. 1, fig. 18A).

Regarding claim 9 '038 discloses the lens system according to claim 1, wherein the at least two lens modules are arranged to form a two-dimensional arrangement of at least four openings, and share one excitation coil (fig. 18A).

Regarding claim 10 '038 discloses the lens system according to claim 1, wherein the openings for the charged particle beams have at least in one direction a distance with respect to each other of about 10 mm to about 90 mm (fig. 1, 18A).

Regarding claim 11 '038 discloses the lens system according to claim 8, wherein each row of lens modules is terminated at its ends by a shielding plate (fig. 1, fig. 18A).

Regarding claim 12, '038 discloses the lens system according to claim 1, wherein each lens module is positioned in relation to an adjacent module by providing a gap of about 0.1 mm to 3 mm (fig. 1, 12A, 15B, 17A, 18A).

Regarding claim 13 '038 discloses the lens system according to claim 12, wherein the gap contains a non-magnetic material (fig. 1).

Regarding claim 14 '038 discloses the lens system according to claim 1, wherein each lens module comprises magnetic flux shaping openings (fig. 18A, 18B).

Regarding claim 15 '038 discloses the lens system according to claim 1, wherein for each lens module, an electrostatic immersion lens is provided (fig. 1, par. [0120] [0202]).

Regarding claim 16 '038 discloses the lens system according to claim 15, wherein each electrostatic immersion lens comprises at least two electrodes (par. [0202]).

Regarding claim 18 '038 discloses the method according to claim 17, wherein manufacturing each of the lens modules comprises providing a cylindrical intermediate product and then flattening at least two sides of the cylindrical intermediate product (fig. 1).

Regarding claim 34 '038 discloses a multiple charged particle beam device, comprising: a charged particle beam source (abstract); a detector for detecting secondary particles (fig. 1, abstract, par. [0089][0188]-[0189]); beam shaping means (fig 1, par. [0187][0197]-[0199]); a housing for the charged particle beam column, wherein the housing can be evacuated (fig. 1); and at least one lens system comprising: at least two lens modules, each comprising a first pole piece, a second pole piece and at least one opening for a charged particle beam (fig. 1, 18A, 18B); and at least one excitation coil providing a magnetic flux to the at least two lens modules, wherein each lens module constitutes a component (fig. 1, 18A, 18B).

Allowable Subject Matter

Claims 35-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103. Specifically, in reference to claim 35, none of the prior art either alone or in combination disclose or teach of the claimed multiple charged particle beam device specifically including as the distinguishing features in combination with the other limitations the claimed "wherein each lens module has n -fold symmetry with respect to the center of the opening and $n > 1$ ".

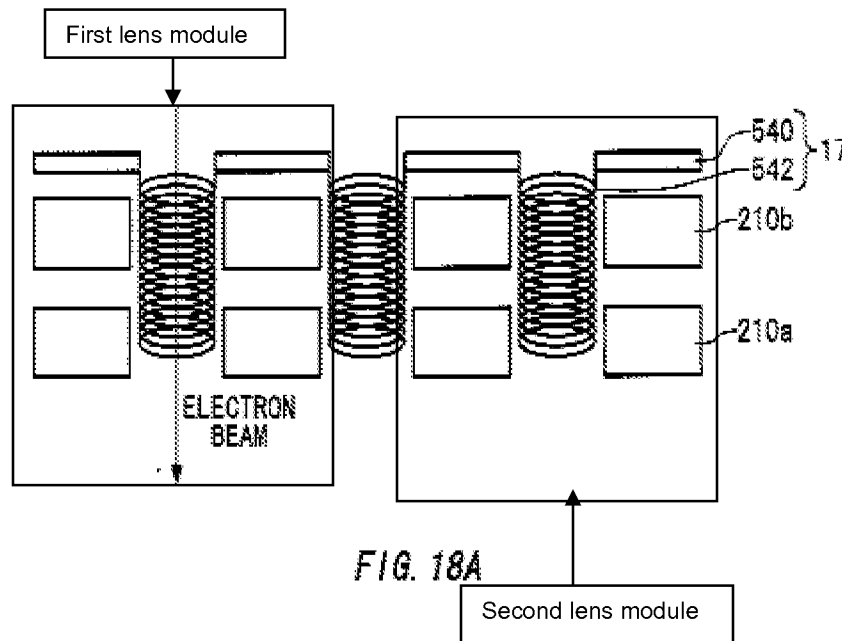
Regarding claim 36, none of the prior art either alone or in combination disclose or teach of the claimed method for manufacturing a lens system specifically including as the distinguishing features in combination with the other limitations the claimed "wherein the center of each opening provides an optical axis, a lens field corresponding to each opening has n -fold symmetry with respect to the optical axis, and $n > 1$ ".

Response to Arguments

Applicant's arguments filed 10/3/2008 have been fully considered but they are not persuasive.

I. Applicant argues that Hamaguchi does not teach at least two lens modules, each comprising a first pole piece and a second pole piece". However, fig. 18A and 18B show a plurality of set lenses and magnetic coils each which can be considered as individual lens modules. conductive members "210a" and "210b" are also apart of the separate lens modules.

II. Applicant argues that Hamaguchi cannot disclose as the at least two lens modules because each conductive member does not comprise a first pole piece and second pole piece. However, the coil is a magnet and it is well known in the art that a magnet will have a north and a south pole. Therefore, Hamaguchi discloses a first pole piece and a second pole piece, the "north pole of the magnetic coil" as the "first pole piece" and the "south pole of the magnetic coil" as the second pole piece. Applicant states that the present application teaches that the first and second pole pieces form "a gap region to confine the magnetic field", However this feature is not claimed.



Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2873

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES C. JONES whose telephone number is (571)270-1278. The examiner can normally be reached on Monday thru Friday, 8 a.m. to 5 p.m. est. time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James C. Jones/
Examiner, Art Unit 2873
1/1/14/2009

/Jordan M. Schwartz/
Primary Examiner, Art Unit 2873